

organisms living under different physical conditions, he names the old form *Palæachlya penetrans*; and he believes that it entered the wall by the spores fixing on to the organic matter, and growing by its assimilation, and that carbonic anhydride was evolved. He considers that this acid, assisted by the force of growth and the movement of the cytoplasm, are sufficient to account for the presence of the tubes. Finally, the author draws attention to the probable similarity of external conditions in the Silurian and present times, and to the wonderful persistence of form of this low member of the Protista.

MISCELLANEOUS.

On some Ornithological Errors in the 'Reliquiæ Aquitanicæ.'

By ALFRED NEWTON, M.A., F.R.S., V.P.Z.S., &c.

THAT Section (xxiii.) of the recently completed 'Reliquiæ Aquitanicæ' which contains the "Observations on the Birds whose Bones have been found in the Caves of the South-west of France, by M. Alphonse Milne-Edwards," &c. &c., includes some errors of a rather grave character—due no doubt, in a great measure, to the fact that the translator of the same was not a professed ornithologist. As, however, these errors, if not corrected, may lead to serious misconceptions on the part of archæontologists who have no special knowledge of birds, I beg permission to notice them in the 'Annals and Magazine of Natural History,' only premising that I do so at the instance of the Author of the section and with the assent of the Editor of the whole work.

Page 226, line 26. "THE TAWNY EAGLE. *Falco fulvus*, Linn." This is the species we know as the Golden Eagle, *Aquila chrysaëtus*. That which we commonly call the "Tawny Eagle" is *A. naevioides*, a southern bird and one not likely to have inhabited Aquitaine at the period when the "caves were filled." On the next page (lines 10, 11) the name "Golden Eagle" is obviously used in a wrong sense.

Page 227, line 14. "THE SCREAMING EAGLE. *Aquila clanga*, Pallas?" This is a new English name for a bird now recognized as distinct from the so-called *A. naevia* or Spotted Eagle of authors. The *A. clanga* is a well-known species in Eastern Europe, and may well have been that of the Reindeer-period in France. "Screaming Eagle" is a name rather applicable to the *Haliaëtus vocifer* of South Africa.

Page 227, lines 20, 21. "Barred-tailed Eagle (*A. fasciata*, Vieillot)" is another new English name for a species long known as Bonelli's Eagle.

Page 228, line 22. "THE COMMON FALCON" is not the common English name for this species, which is the Peregrine Falcon

(*Falco peregrinus*); and an indication to that effect seems wanted.

Page 230, line 1. "THE VULTURE" to English ears would rather signify *Gyps fulvus*; the epithet Black or Cinereous is required, to show which species is really intended.

Page 232, line 6 and elsewhere. "Harfang" conveys no signification to the ordinary English reader: by it is meant the Snowy Owl.

Page 232, line 16. This assertion is wrong, the reverse being the case.

Page 232, lines 34-36. The statement is erroneous as regards the British Isles, in some parts of which the Snowy Owl occurs frequently almost every winter and not unfrequently at other seasons.

Page 233, lines 5, 6. "At Spitzbergen . . . the Snowy Owls subsist on *Lagopus hemileucurus*." This assertion can hardly be reconciled with the fact that when it was written only two examples of this Owl had been recorded as observed in Spitzbergen; and one of these, according to Dr. Malmgren, was probably attracted by Walrus-carasses.

Page 236, lines 1-6. It is very questionable whether the Nutcracker ever inhabits Lapland, equally doubtful whether Swedish specimens are larger than those of temperate Europe, and certainly wrong that the *Nucifraga brachyrhyncha* of Brehm is the northern as distinguished from the southern form. If there be any difference between the so-called *N. brachyrhyncha* and the true *N. caryocatactes*, it is most likely sexual, the former being the cock and the latter the hen. The suggestion with which the paragraph concludes is therefore founded on a misapprehension.

Page 236, line 14. The Crossbill which has occurred (but only about half-a-dozen times) in Greenland is *Loxia leucoptera*, an American species; and accordingly the remark is inapplicable.

Page 237, line 10. For "the eastern parts of the north of Europe and Asia" read "the most northern fir-forests of Europe, Asia, and America."

Page 238, line 8. "THE STOCKDOVE. *Columba livia*." *C. livia*, in French *Le Biset*, is the "Rock-Dove" of Englishmen, and, as is well known, the parent of all domestic races. The "Stock-Dove," so called from its often breeding in stocks of trees, is the *C. œnas* of authors.

Page 239, lines 8-14. The Willow-Grouse inhabits a great deal more than "the north" of Europe, besides the greater part of Siberia; and it does most especially "frequent forests," though not lower than the subalpine or subarctic zone. Its geographical distribution is very different from that of the Snowy Owl, which is not a forest-bird at all.

Page 239, lines 16 *et infra*. My views in the paper ('Proceedings of the Academy of Natural Sciences of Philadelphia,' 1871, p. 96) to which reference is made are much misrepresented.

Therein I never used the word "subspecies," and I expressly stated that I counted *Lagopus scoticus* "as a species," though I was persuaded (as I still am) that "it is only *L. albus* modified to suit an insular climate"*: Furthermore, *L. mutus*, *L. rupestris*, and *L. hemileucurus* were not considered by me to have any such very near relationship to *L. albus* as I conceive *L. scoticus* to have.

Page 239, line 24. The "certain uniformity of tints" spoken of exists, except in the female, at one time of the year only, and even then is not applicable to *L. scoticus*.

Page 240, footnote. For "seems to entertain" read "entertains."

Page 241, lines 7, 8. The Black Grouse is far less "common in the mountains of Sweden and Norway" than it is in the lower districts.

Page 244, line 5. The statement that the Wild Swan "inhabits the Polar regions" gives a very incorrect impression; for most of the Wild Swans that visit Western Europe are bred in Iceland, altogether outside the Arctic Circle, while the species found in the Polar regions of America are most likely quite distinct from those which inhabit the Old World.

In noticing these errors I have omitted any reference to some others which have been already corrected in the concluding portion of the 'Reliquiæ Aquitanicæ' (p. 292); and I may perhaps be allowed to add that my sole object has been to contribute to the utility of that work. I certainly impute no blame to its learned Editor or to my distinguished friend M. Alphonse Milne-Edwards.

On the Verminous Pneumonia of Domestic Animals.

By M. E. BUGNION.

M. E. Bugnion communicated to the meeting of the Swiss Society of Natural Sciences, held at Andermatt in September last, some observations on the pneumonia produced in domestic animals by the presence of parasitic worms in the lungs, which seem to be of much practical interest. He insisted especially upon the different forms assumed by the disease according as it is caused by adult *Strongyli* or by ova and embryos. Up to this time he has observed:—

1. A *lobular form*, produced by adult *Strongyli* coiled up in the bronchi.

2. A *diffused form*, caused by ova and young larvæ of Nematodes scattered by thousands in the tissue of the lungs.

3. A *nodular or pseudo-tubercular form*, produced by the accumulation of the ova at certain limited points of the lung.

The first form was studied in the calves and heifers of the Jura, where this disease sometimes acquires an epizootic character. During the great slaughter ordered by the Government of the Canton de Vaud on the pastures of Neuvaz (Jura) in September 1874, on

* See also 'Encyclopædia Britannica,' ed. 9, vol. iii. p. 757.